Volume 198 1988

Contents

Letters to the Editor

The molecular shell surrounding the compact planetary nebula IRAS 21282+5050
Likkel, L., Forveille, T., Omont, A., Morris, M. L1

Modulations of neutrino emission from supernovae and the apparent 200 ms periodicity in SN 1987 A
Goldman, I., Mazeh, T., Nussinov, S., Kovner, I. L5

Light echoes from SN 1987 A
Gouiffes, C., Rosa, M., Melnick, J., Danziger, I.J., Remy, M., Santini, C., Sauvageot, J.L., Jakobsen, P., Ruiz, M.T. L9

AO 0235+164: the case of a gravitationally microlensed BL Lac object?
Stickel, M., Fried, J.W., Kühr, H. L13

Detection of CO in the elliptical galaxy NGC 4472
Huchtmeier, W.K., Bregman, J.N., Hogg, D.E., Roberts, M.S. L17

Cosmology

The normalization of the correlation functions for extragalactic structures
Calzetti, D., Giavalisco, M., Ruffini, R. 1

Extragalactic astronomy

III Zw 2: a look into the AGN machinery
Kaastra, J.S., de Korte, P.A.J. 16

HI synthesis observations of the dwarf irregular galaxy Sextans A
Skillman, E.D., Terlevich, R., Teuben, P.J., van Woerden, H. 33

Molecular clouds in the main disk and warped plane of M 31: evidence for two different populations
Casoli, F., Combes, F. 43

Observations of the new gravitational lens system UM 673=Q 0142–100
Surdej, J., Magain, P., Swings, J.-P., Borgeest, U., Courvoisier, T.J.-L., Kayser, R., Kellermann, K.I., Kühr, H., Refsdal, S. 49

An optical study of stars and dust in the Andromeda galaxy
Walterbos, R.A.M., Kennicutt, R.C., Jr. 61

Quantitative analysis of the optical jet in the QSO 3C 273
Fraix-Burnet, D., Nieto, J.-L. 87

A 21-cm line study of NGC 5963, an Sc galaxy with a low-surface brightness disk
Bosma, A., van der Hulst, J.M., Athanassoula, E. 100

Synchrotron radiation losses in the post-starburst galaxy NGC 1569
Israel, F.P., de Bruyn, A.G. 109

Galactic structure and dynamics

Precession and galactic rotation in the system of the FK 5
Schwan, H. 116

Our Galaxy – a polar ring galaxy?
Haud, U. 125

Stochasticity in elliptical galaxies
Udry, S., Pfenniger, D. 135

Formation, structure and evolution of stars

IUE low resolution observations of the symbiotic star CH Cygni in 1979–1986
Mikolajewska, J., Selvelli, P.L., Hack, M. 150

Differential rotation and elemental mixing in accreting stars
Fujimoto, M.Y. 163

The spectroscopic orbit of the symbiotic star EG Andromedae
Munari, U., Margoni, R., Iijima, T., Mammano, A. 173

Relative C, N, O abundances in red giants, planetary nebulae, novae and symbiotic stars
Nussbaumer, H., Schild, H., Schmid, H.M., Vogel, M. 179

Radial velocity monitoring of a sample of Barium and S stars using CORAVEL: Towards an evolutionary link between Barium and S stars?
Jorissen, A., Mayor, M. 187

Stellar atmospheres

Evidence for low-velocity winds in Be/X-ray binaries
Waters, L.B.F.M., Taylor, A.R., van den Heuvel, E.P.J., Habets, G.M.H.J., Persi, P. 200

Time-resolved high-resolution spectroscopy of an Hα outburst of μ Centauri (B2 IV–Ve)
Baade, D., Dachs, J., van de Weygaert, R., Steeman, F. 211

Diffuse matter in space (including HII regions and planetary nebulae)

Optical properties of glassy bronzite and the interstellar silicate bands
Dorschner, J., Friedemann, C., Gürtler, J., Henning, T. 223

Investigation of highly-excited-level populations of hydrogen
Sorochenko, R.L., Rydbeck, G., Smirnov, G.T. 233

Submillimetre HCO^+ observations of warm cloud cores: the excitation of molecular lines in dense star formation regions
Richardson, K.J., White, G.J., Monteiro, T.S., Hayashi, S.S. 237

(RN) Interstellar polarization in a southern HI cloud
Luna, H.G., Testori, J.C. 249

Methanol in the Orion region. I. Millimeter-wave observations
Menten, K.M., Walmsley, C.M., Henkel, C., Wilson, T.L. 253

Methanol in the Orion region. II. The 25 GHz masers revisited
Menten, K.M., Walmsley, C.M., Henkel, C., Wilson, T.L. 267

Cosmic ray spectrum produced by supernova remnants with an upper limit on wave dissipation
Völk, H.J., Zank, L.A., Zank, G.P. 274

A very high resolution study of emission line widths in galactic and extragalactic HII regions
O'Dell, C.R., Townsley, L.K. 283

Spectra of three planetary nebulae and a search for nebular emissions around 12 sdO stars
Méndez, R.H., Gathier, R., Simon, K.P., Kwitter, K.B. 287

The Sun

Extrapolation functions for constant-α force-free fields. Green's method for the oblique boundary value
Semel, M. 293

Helical magnetohydrodynamic turbulence and the coronal heating problem
Dahlburg, R.B., Dahlburg, J.P., Mariska, J.T. 300

Elemental abundances in different solar regions from EUV observations
Noci, G., Spadaro, D., Zappalà, R.A., Zuccarello, F. 311

Temporal and center-to-limb variations of the KI 769.9 nm line profiles in quiet and active solar regions
Bonet, J.A., Márquez, I., Vázquez, M., Wöhl, H. 322

The continuous spectrum of MHD waves in 2-D solar loops and arcades. Parametric study of poloidal mode coupling for poloidal magnetic fields
Poedts, S., Goossens, M. 331

Celestial mechanics and astrometry

Secular evolution of the solar system over 10 million years
Laskar, J. 341

A computer program for evaluating the analytical representation of the systematic differences between the FK 4 and the FK 5 or other catalogues of star positions or proper motions
Schwan, H. 363

The calibration problem. V. Numerical tests using synthetic parallaxes
Smith, H., Jr. 365

Instruments, data processing, and computational methods

A real-time image processor with multi-channel correlator for solar radio observations
Nishio, M., Tsukiji, Y., Kobayashi, S., Shibasaki, K., Enome, S. 370

Determination of closure phase in noisy conditions
Woan, G., Duffett-Smith, P.J. 375